



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/788,710	02/27/2004	George Cabrera	GA-6948	7766
26294 7590 09/25/2007 TAROLLI, SUNDHEIM, COVELL & TUMMINO L.L.P. 1300 EAST NINTH STREET, SUITE 1700 CLEVEVLAND, OH 44114			EXAMINER CORRIELUS, JEAN B	
			ART UNIT 2611	PAPER NUMBER
			MAIL DATE 09/25/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/788,710

Applicant(s)

CABRERA, GEORGE

Examiner

Jean B. Corrielus

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 8/6/07.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,8 and 15-20 is/are rejected.
- 7) ☒ Claim(s) 2-7 and 9-14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National-Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 1-20 are objected to because of the following informalities: claim 1, 15 and 16, please expand the following acronyms "FM, RF".. Note that any claim whose base claim is objected is likewise objected.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

2. Applicant's response has overcome the outstanding 112 second paragraph rejection.

### ***Drawings***

3. The drawings are objected to because please use "signal flow" at the input of each circuit component. Element 30 is referred to in the specification as a "splitter", however, it is noted that such a device is well known as a "combiner" or "summer". Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency.

Art Unit: 2611

Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 8 and 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunsinger et al US patent No. 5,757,854 in view of applicant's admitted prior art fig. 1. Hunsinger teaches a method and apparatus fig. 16 comprising splitter that receives a said analog FM signal 14 for splitting [the] said FM signal into a "first signal" considered as the claimed "fractional portion" and "second signal" considered as the claimed "remainder portion", see the output of the modulator of fig. 16; circuit 16 corresponding to the claimed "summer" for combining said "first signal" (fractional portion) with said digital signal 18 to provide a first combined signal (note that circuit 16 is known in the art to generate a combined signal see for instance US Application No. 6,898,249, element 124 and col. 6, lines 3-4); and a combiner 22 that combines said second signal and said combined signal to provide a composite RF

Art Unit: 2611

signal to be broadcasted. However, Hunsinger et al does not teach a main FM transmitter for amplifying said second signal (remainder portion) to provide an amplified FM signal; a digital transmitter for amplifying said first combined signal to provide an amplified combined signal. However, applicant admitted prior art clearly teach prior a signal is combined by combiner C, a main FM transmitter 10 is used to provide an amplified FM signal; a digital transmitter 12 is used to provide an amplified combined signal. Given that fact, it would have been obvious to one skill in the art to incorporate such a teaching in Hunsinger et al in order to increase the output power so as to overcome the combiner insertion loss. See applicant's description pages 1-3 relating to the admitted prior art fig. 1.

As per claim 8, the digital signal is an IBOC digital signal see, title and abstract.

As per claim 15, see claim 1.

As per claim 16, see claim 1.

As per claim 17, Hunsinger and applicant's admitted prior art does not explicitly teach the further step of adjusting the phase of the first signal (fractional signal) however, it is well know in the art t adjust phase of a signal prior to being combine to another signal. Given that it would have been obvious to one skill in the art to adjust the phase of the first signal (fractional signal) so as to bring the first signal in phase alignment with second signal so as to ensure that they are properly combined.

As per claim 18, it would have been obvious to one skill in the art to manually adjust the phase of the first signal (fractional signal) and the motivation to do so would have been the same as provided above with respect to claim 17.

As per claim 19, see claim 8.

As per claim 20, see claim 17.

6. Claims 2-7, 9-14 are objected to as being dependent upon a rejected ase claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Applicant's arguments filed 8/6/07 have been fully considered but they are not persuasive. Regarding the applicant's comment with respect to the insertion of ""portion." After "fractional" in the last line of claim 9, note that the set of claim presented on 2/16/05, such term was missing in the last line of claim 9.

Applicant argues that Hunsinger teaches a multiplier to generate a multiplied signal as oppose to a summer for generating a combined signal. However, it is noted that the multiplier is functionally equivalent to "summer" because the multiplier takes two input signals and output a single signal (combined signal) and the summer takes two input signals and outputs a single signal (combined signal). Hence the claimed "summer" is fonctionnaly equivalent to the "multiplier" taught by Hunsinger. In addition, note US Patent No. 6,898,249, element 124 and col. 6, lines 3-4 in which a multiplier is configured to generate combined signal. Applicant further argues that the acronyms "FM and RF" are frequently used in the specification as well as in claim as is seen in the prior art cited by the examiner. However, it is noted that applicant claimed invention fails to expand the acronyms. For instance, "FM" should be expanded as "frequency modulation". Note that it is irrelevant to refer to the art cited by the examiner to show

Art Unit: 2611

that such occurrence is common in the art and therefore should be accepted as such deficiencies may have been overlooked during prosecution. Applicant argues that it is conventional in the art not to employ "signal flow" at the input of each circuit. This is incorrect. Note that a signal flow is just an arrow placed at the input of each device or in a signal line to indicate the direction the current flows in a circuit. Note the signal flows represented by the arrow below.



Applicant further argued that element 30 is well known in the art as a splitter, because it includes one input and two output. The drawing should be amended to replace the summation symbol " $\Sigma$ " by "**splitter**", as a summation symbol is an indication that a summation operation is to be performed.

### ***Conclusion***

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 2611

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean B. Corrielus whose telephone number is 571-272-3020. The examiner can normally be reached on Monday-Thursday from 9:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Jean B Corrielus  
Primary Examiner  
Art Unit 2611

9-14-07